

ABSTRACT OF THE DISCLOSURE

A method of path gain estimation for a downlink WCDMA system. The present invention further provides a system for realizing the path gain estimation method. A transmitting device of the system comprises a first and a second antenna to transmit signals with the space time transmit diversity (STTD) scheme. The first and second antennas transmit common pilot channel (CPICH) symbols that are orthogonal to each other, and the CPICH symbols are received by a single antenna of a receiving device. The receiving device then determines the path gain by a STTD filter coefficient determination process, which includes a block selection process for selecting a combination of the CPICH symbol and a tap gain determination process for determining equations for estimating the path gain of the system.